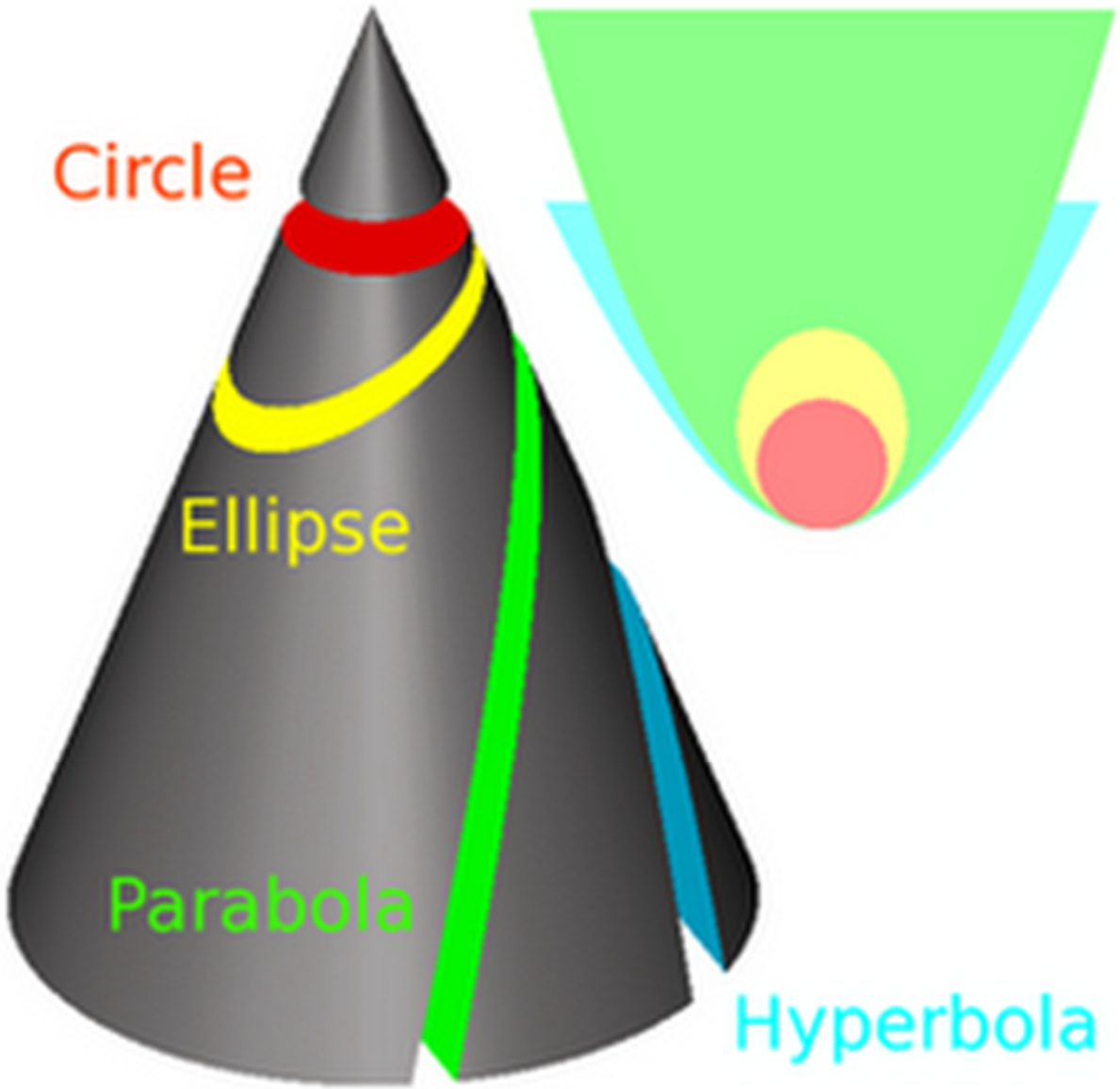
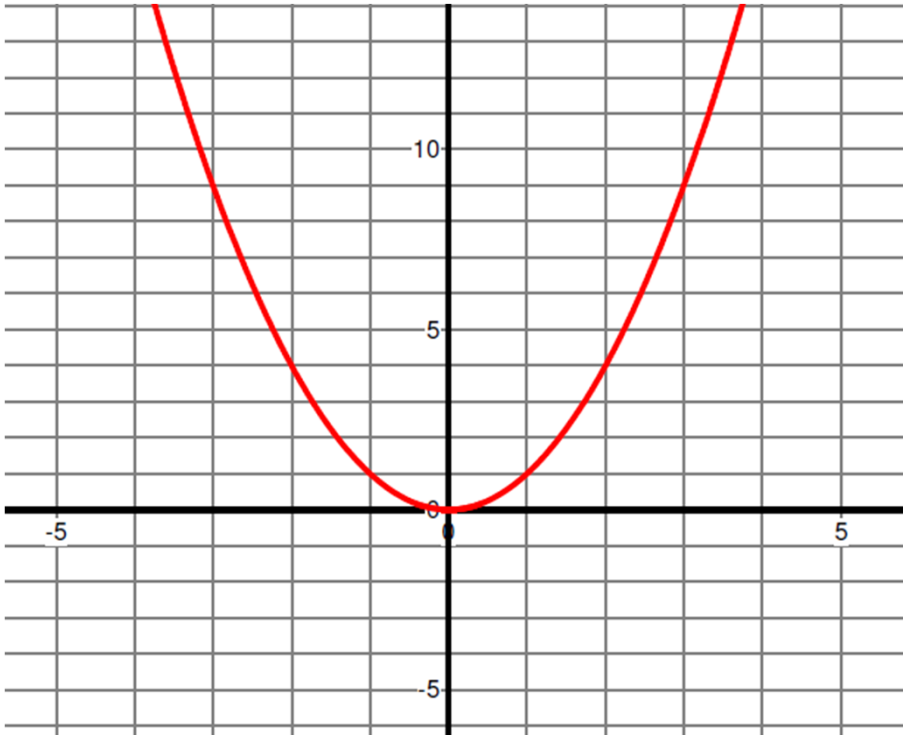
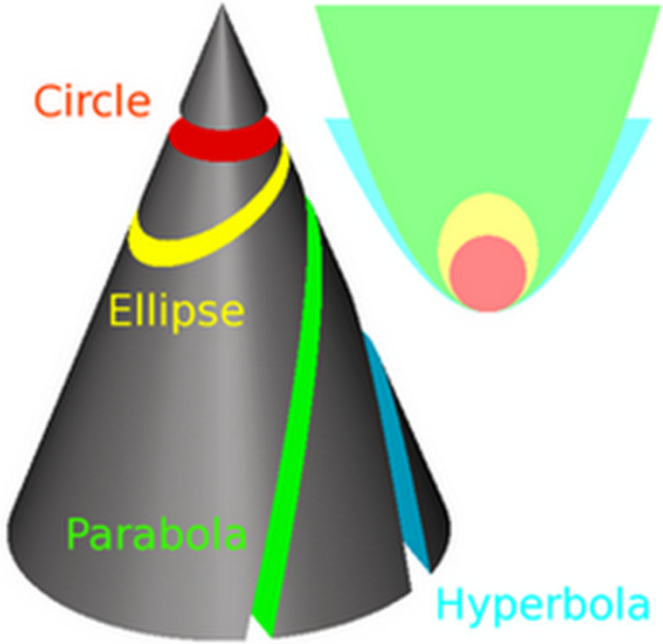
Trychiadau Conig

FP2

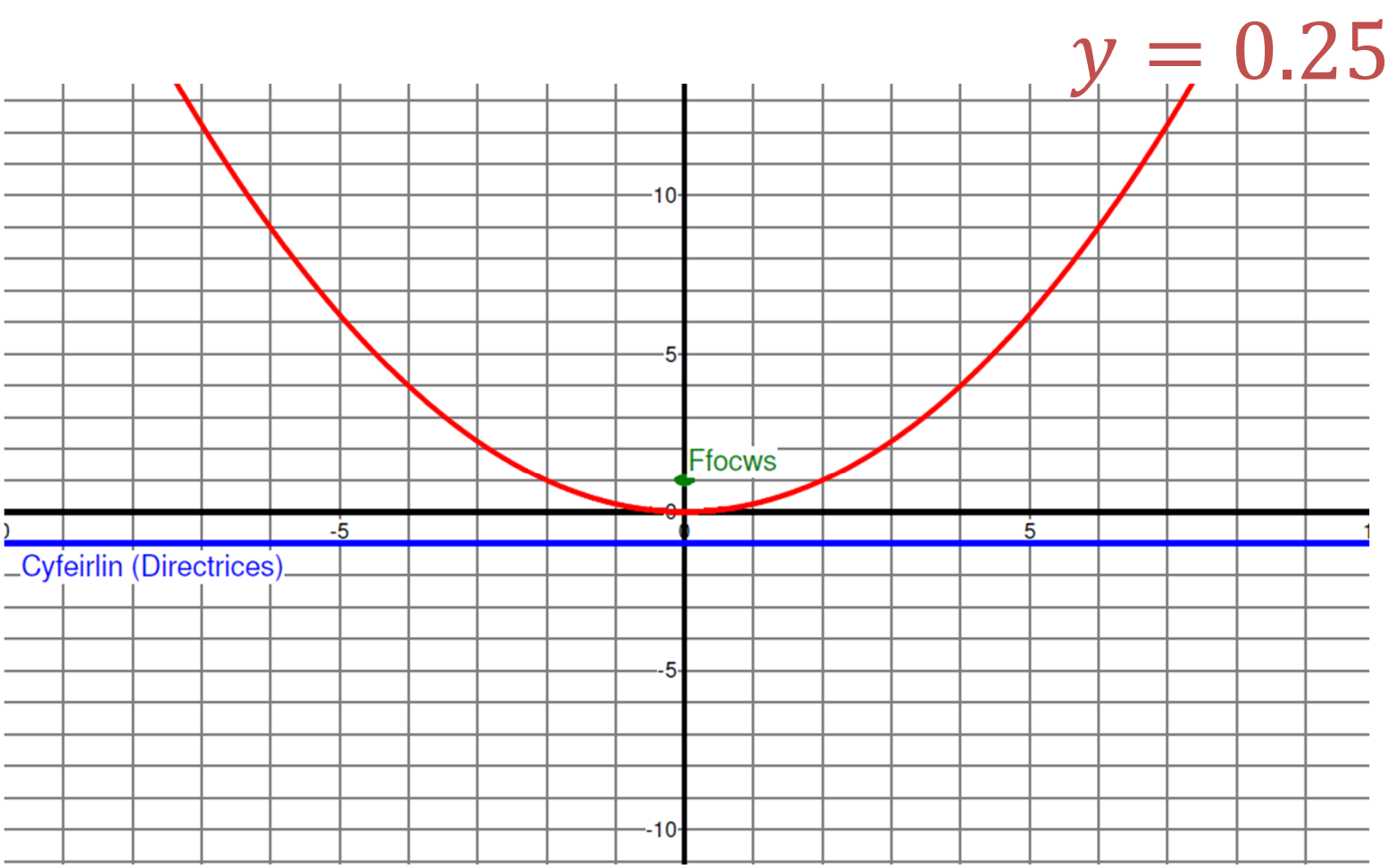

Circle
Ellipse
Parabola
Hyperbola



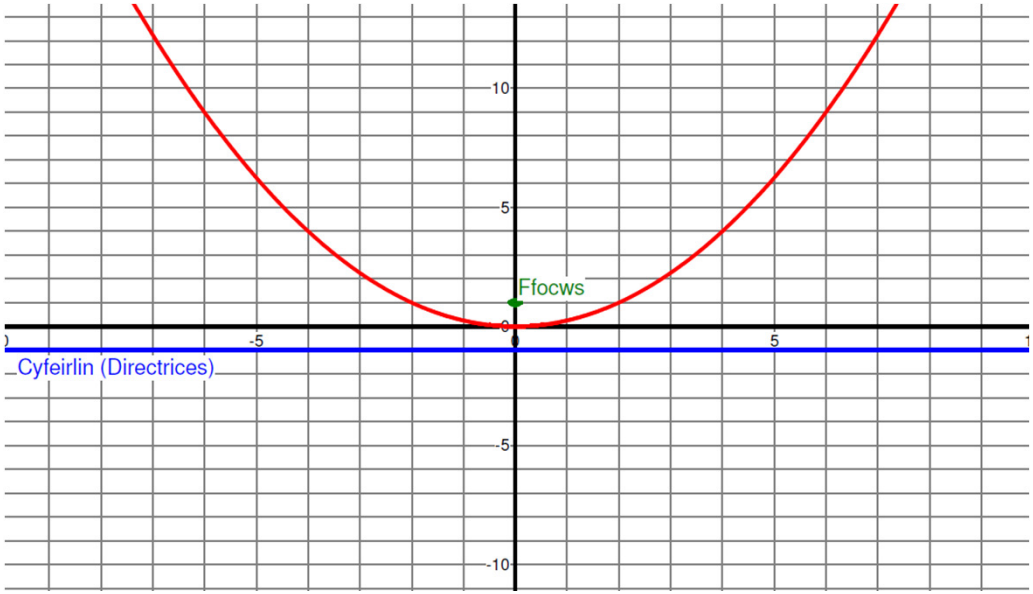


Parabola chi yn nabod yn barod

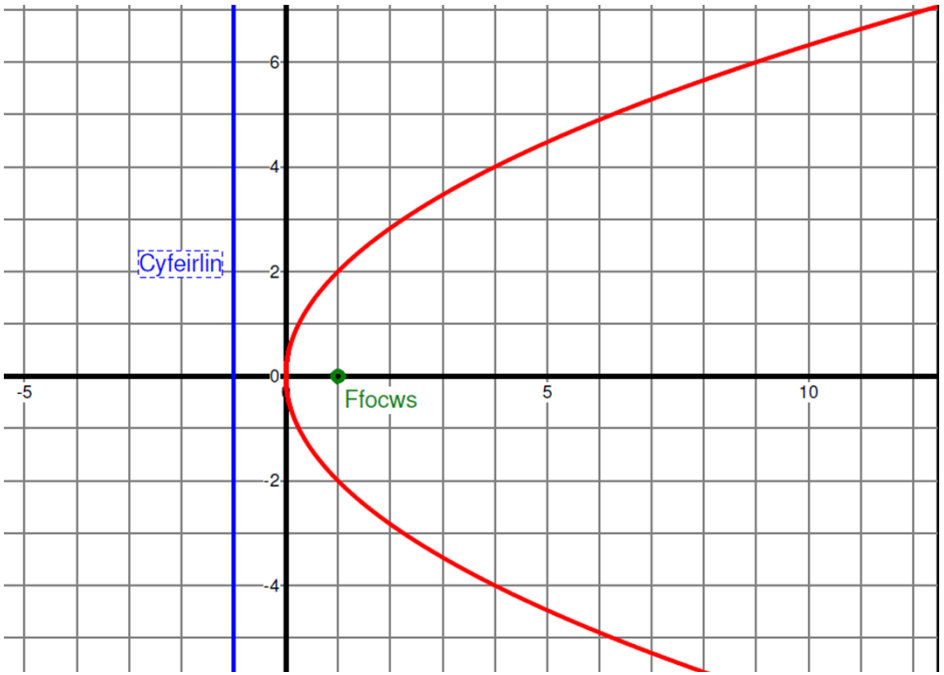
$$y = x^2$$



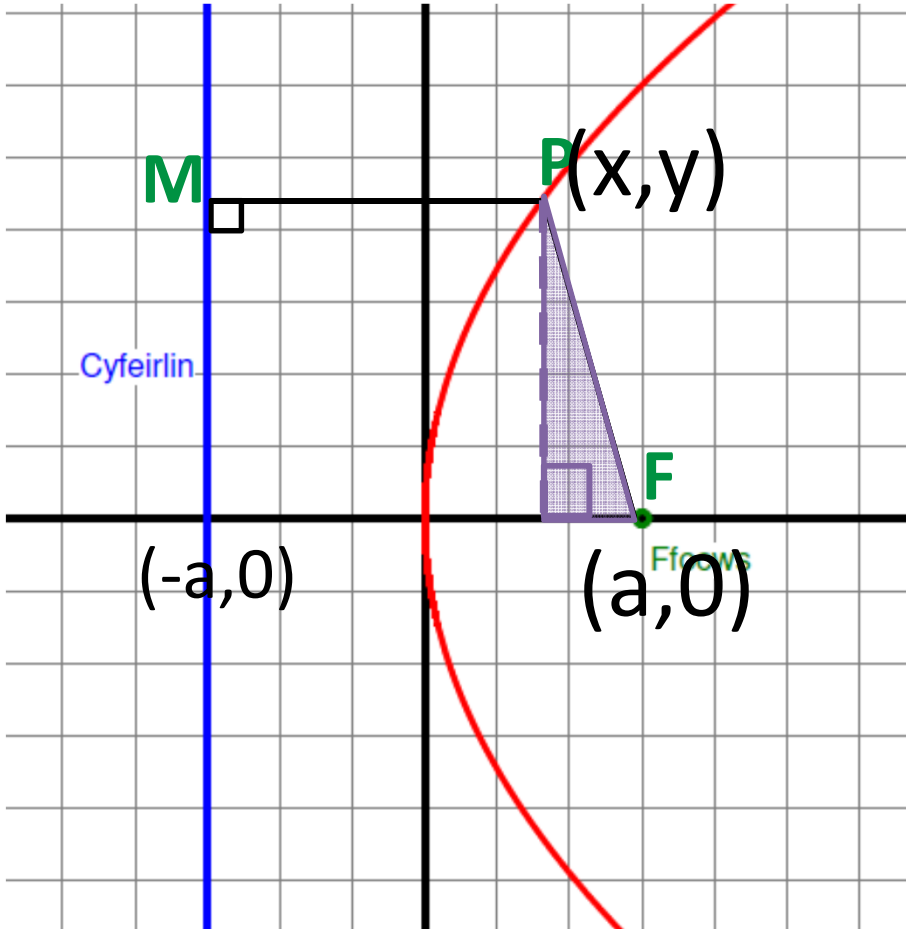
$$y = \frac{x^2}{4} \qquad 4y = x^2$$



$$4y = x^2$$



$$y^2 = 4x$$



x=-a

PF = ePM
e = echreiddiad

Pan fo $e = 1$, *mae' r conig yn* ***barabola***.

PM = a + x

$$PF^2 = y^2 + (a - x)^2$$

$$PM^2 = (a + x)^2$$

$$PF^2 = PM^2$$

$$y^2 + (a - x)^2 = (a + x)^2$$

$$y^2 + \cancel{a^2} - 2ax + \cancel{x^2} = \cancel{a^2} + 2ax + \cancel{x^2}$$

$$y^2 = 4ax$$

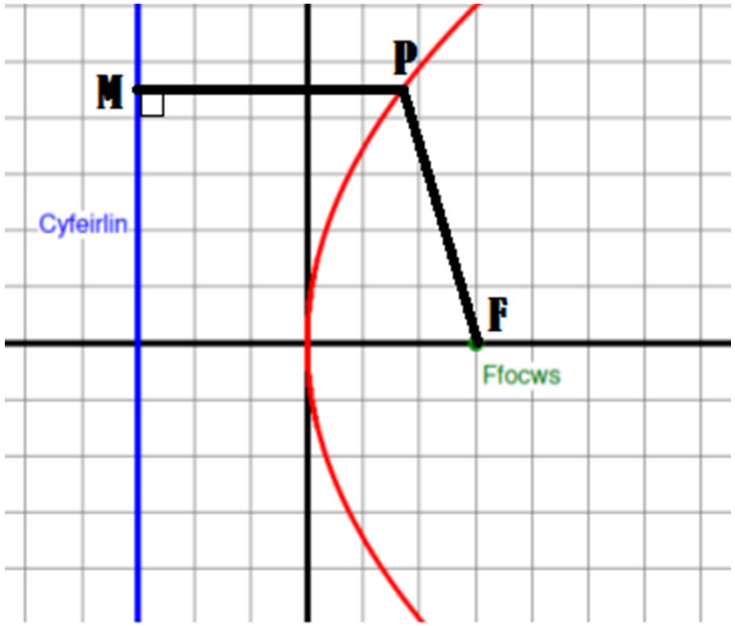
$$PF = ePM$$

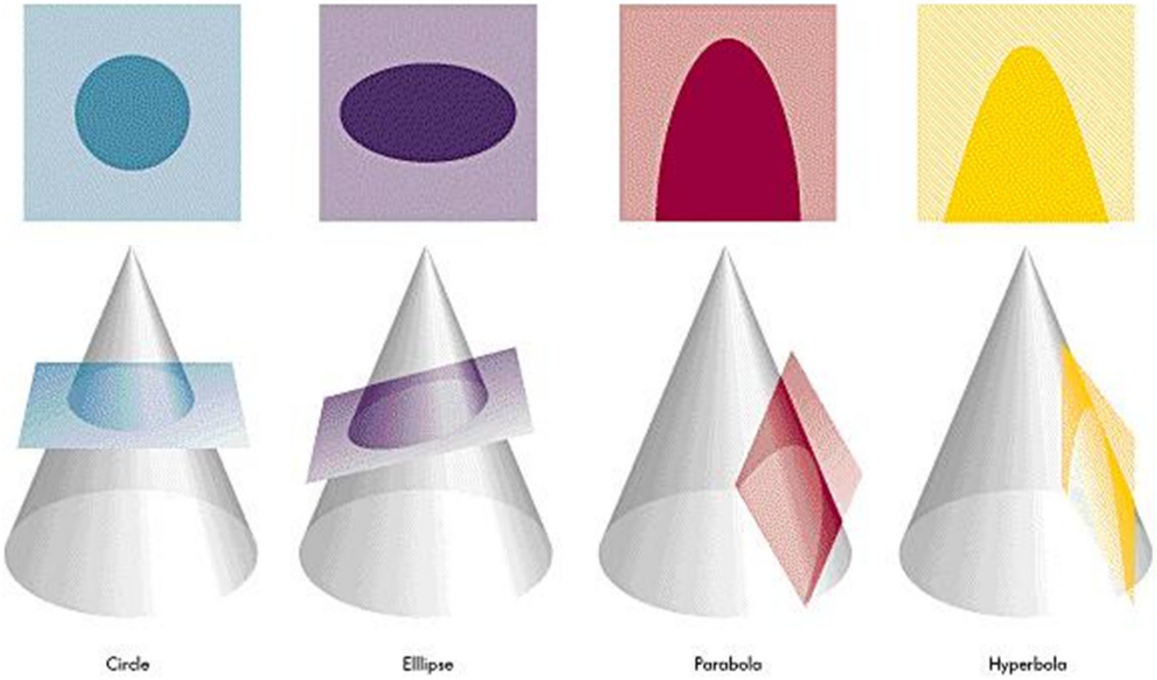
$e = echreiddiad$

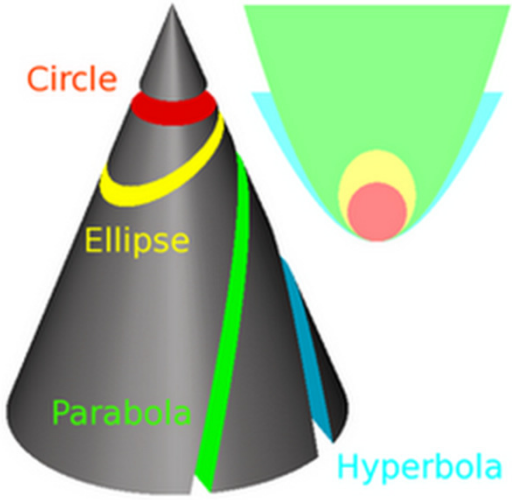
$Pan\ fo\ e = 1, mae'r\ conig\ yn\ \boldsymbol{barabola}.$

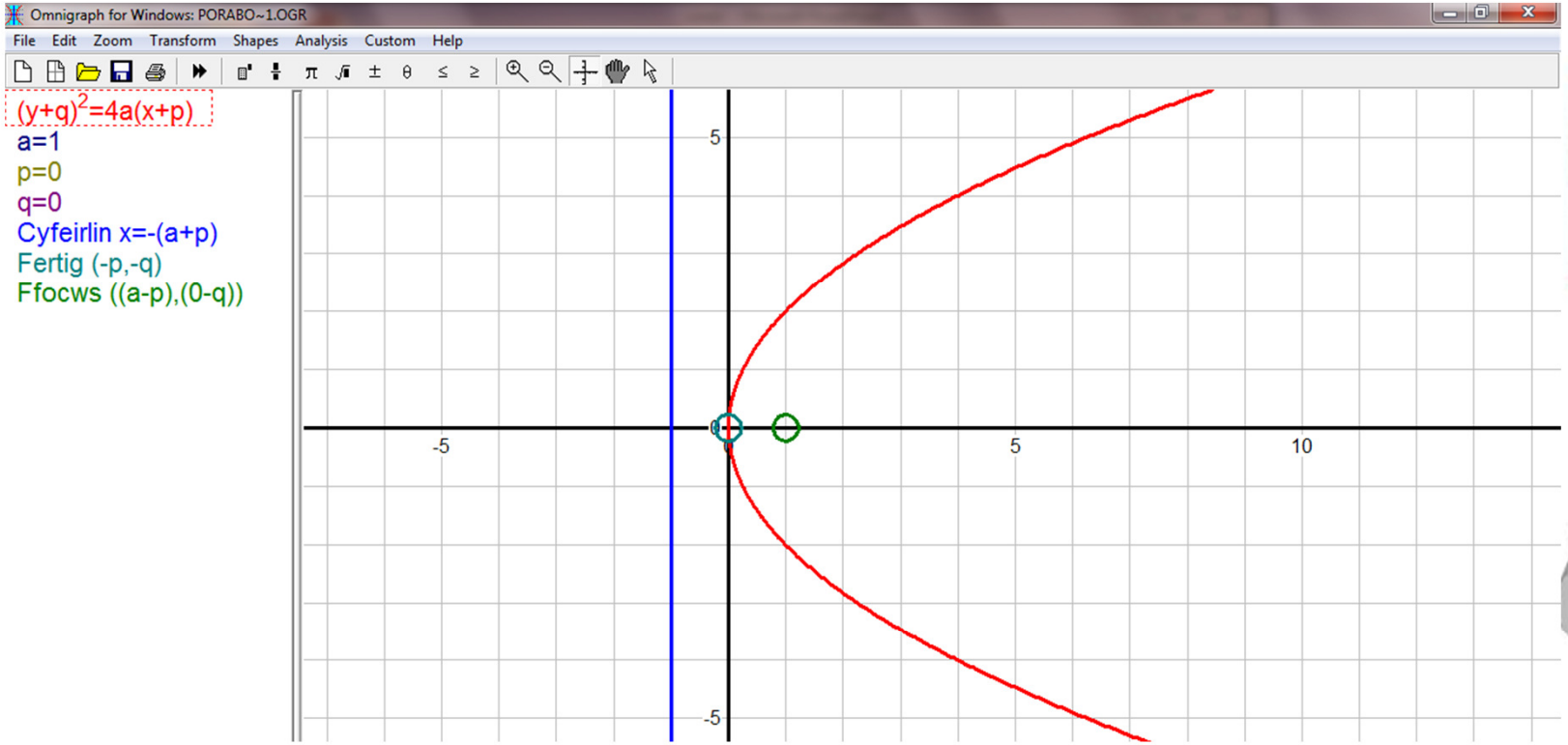
$Pan\ fo\ 0 < e < 1, mae'r\ conig\ yn\ \boldsymbol{elips}.$

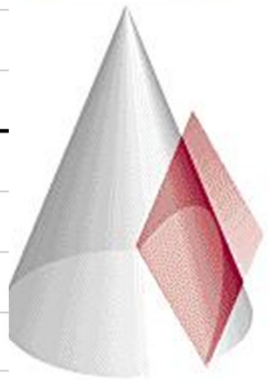
$Pan\ fo\ e > 1, mae'r\ conig\ yn\ \boldsymbol{hyperbola}.$











Parabola

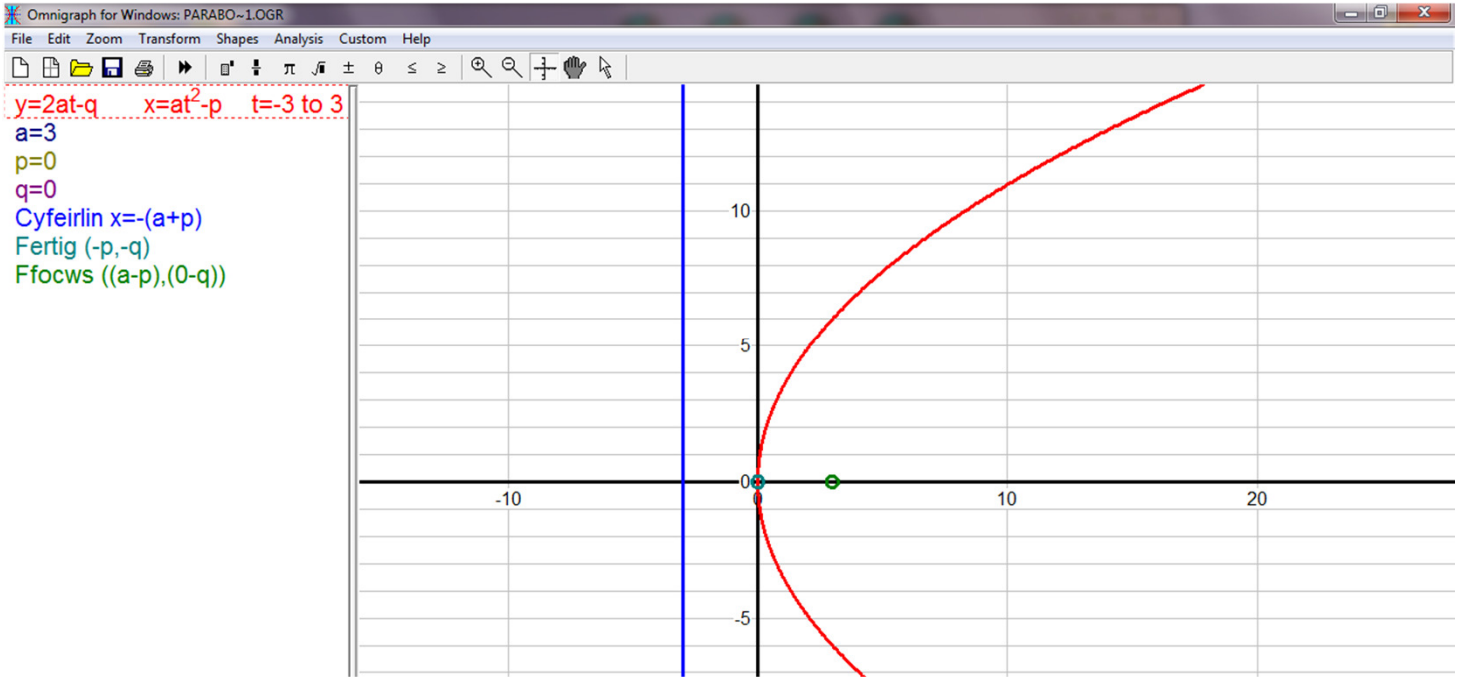
Geometreg Gyfesurynnol

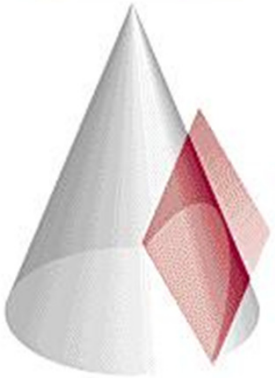
Conigau

	Parabola
Ffurf Safonol	$y^2 = 4ax$
Ffurf Baramedrig	$(at^2, 2at)$

Echreiddiad	$e = 1$
Ffocysau	$(a, 0)$
Cyfeirliniau	$x = -a$
Asymptotau	dim

Ffurf Baramedrig





Parabola

Geometreg Gyfesurynnol

Conigau

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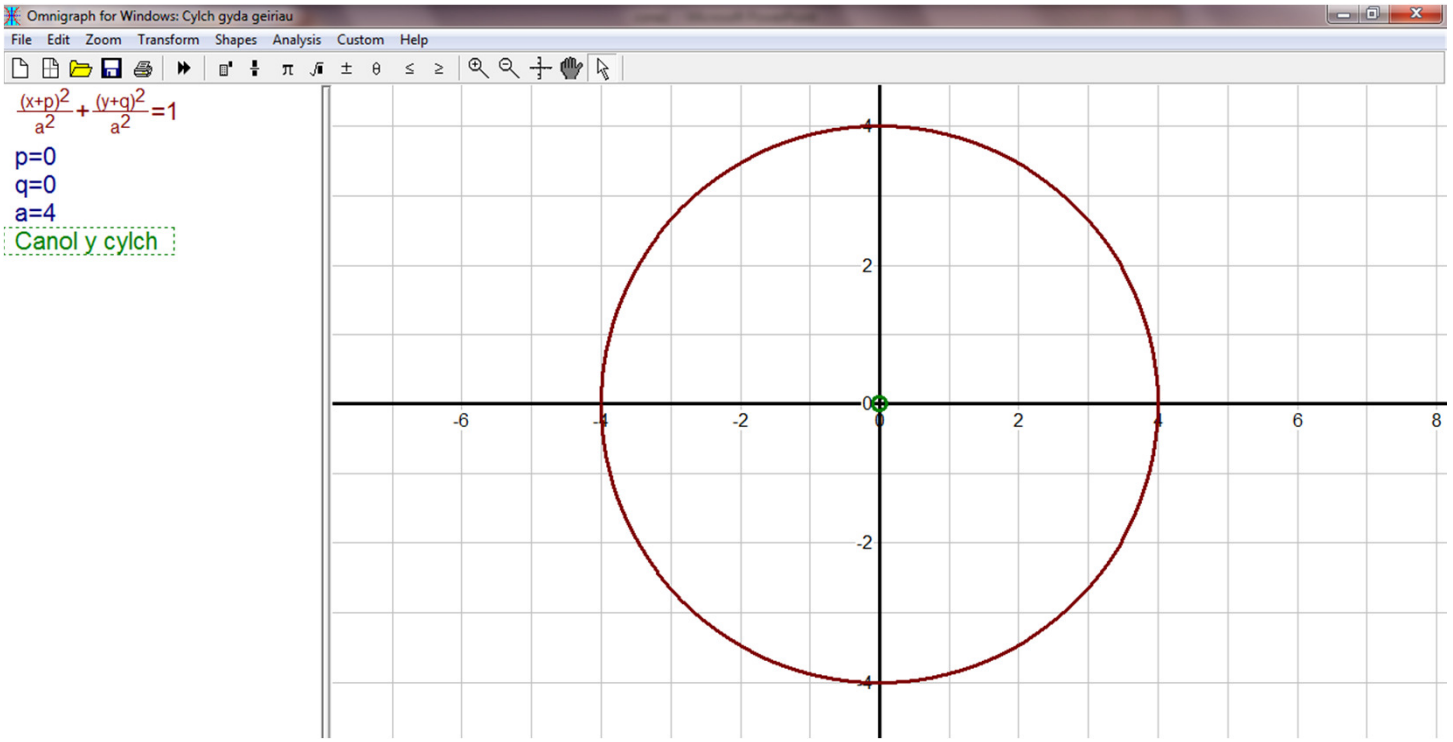
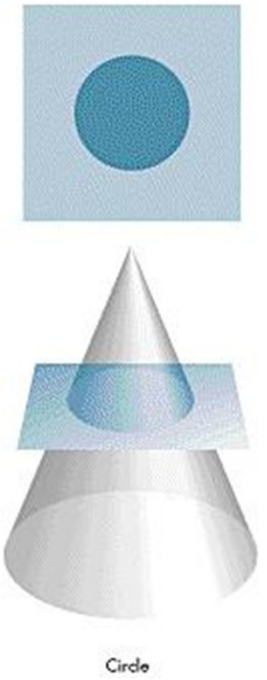
Asymptotau	dim

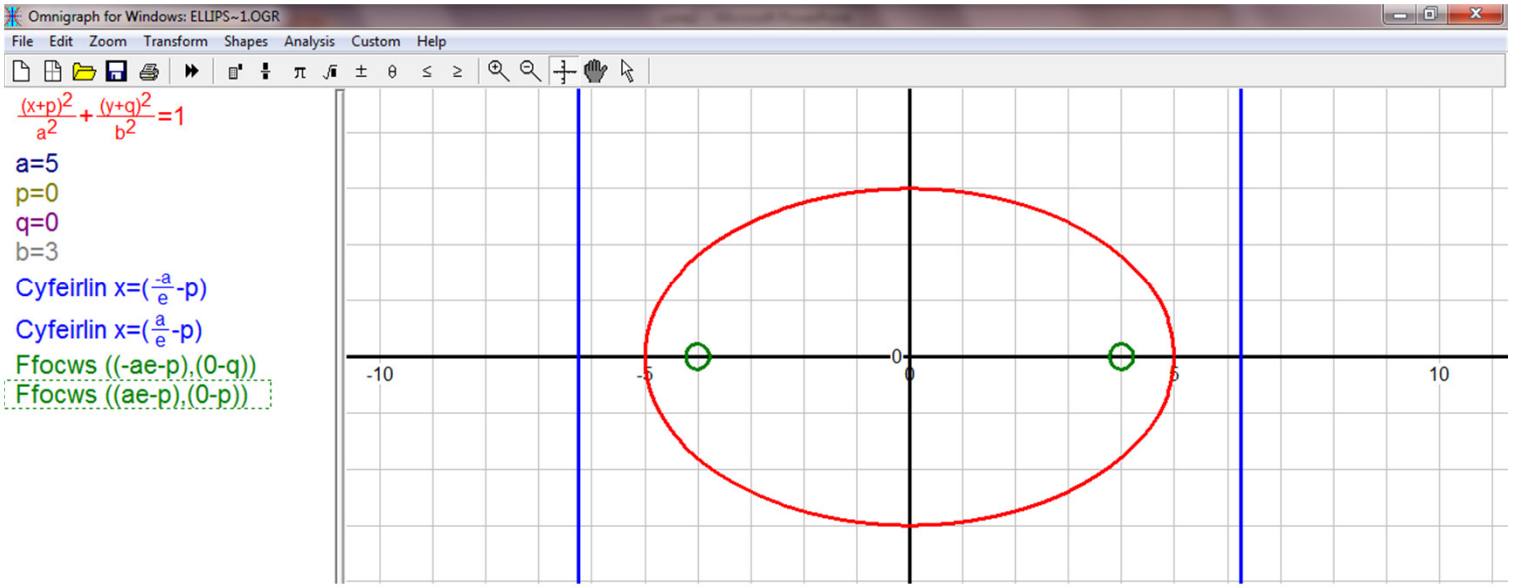


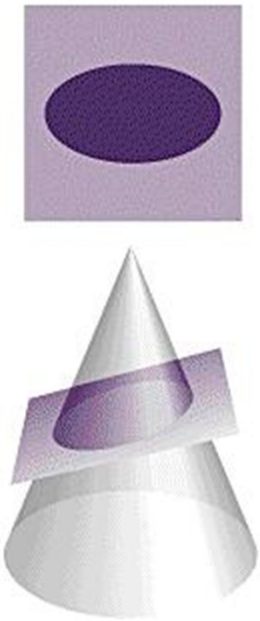


Gwaith
C2 nid FP2

$$(x+p)^2+(y+q)^2=r^2$$

$$\frac{(x+p)^2}{r^2}+\frac{(y+q)^2}{r^2}=1$$





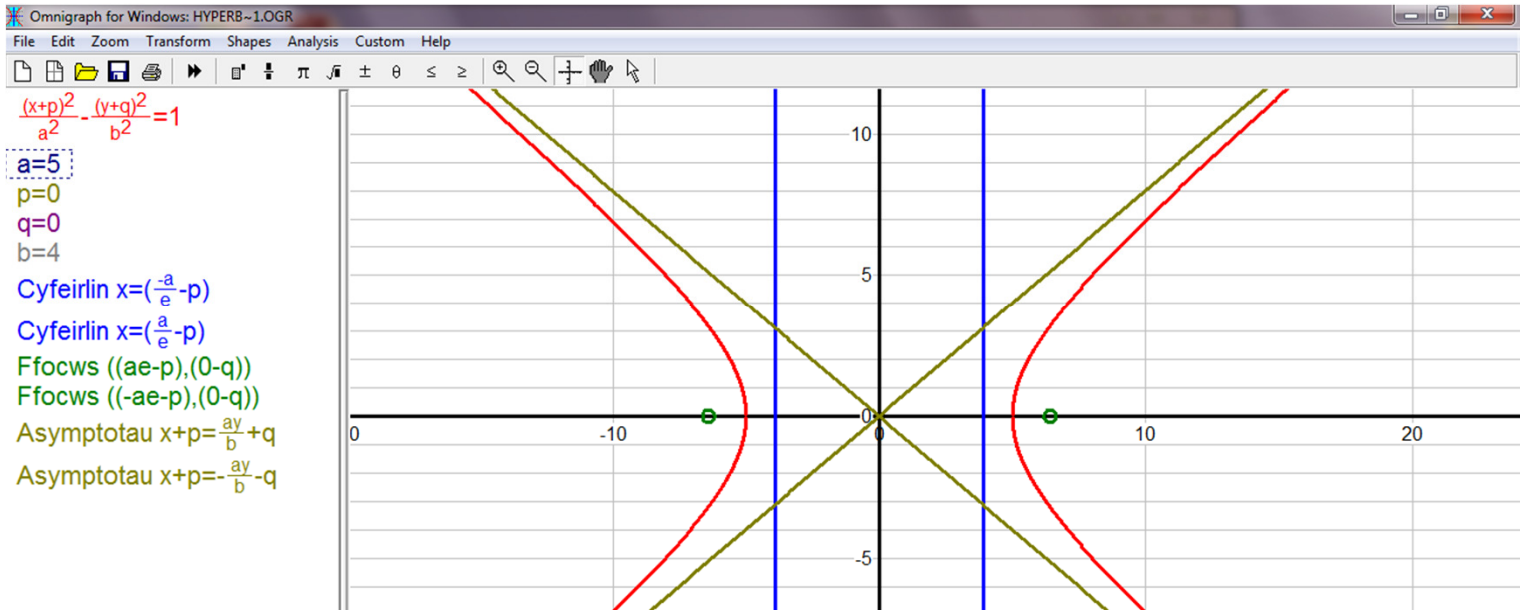
Ellipse

Geometreg Gyfesurynnol

Conigau

	Elips
Ffurf Safonol	$\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$
Ffurf Baramedrig	$(a\cos\theta, b\sin\theta)$

Echreiddiad	$e<1$ $b^2=a^2(1-e^2)$
Ffocysau	$(\pm ae, 0)$
Cyfeirliniau	$x=\pm\frac{a}{e}$
Asymptotau	dim



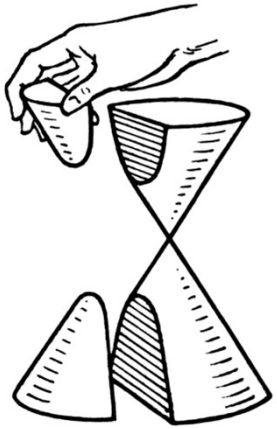
Hyperbola

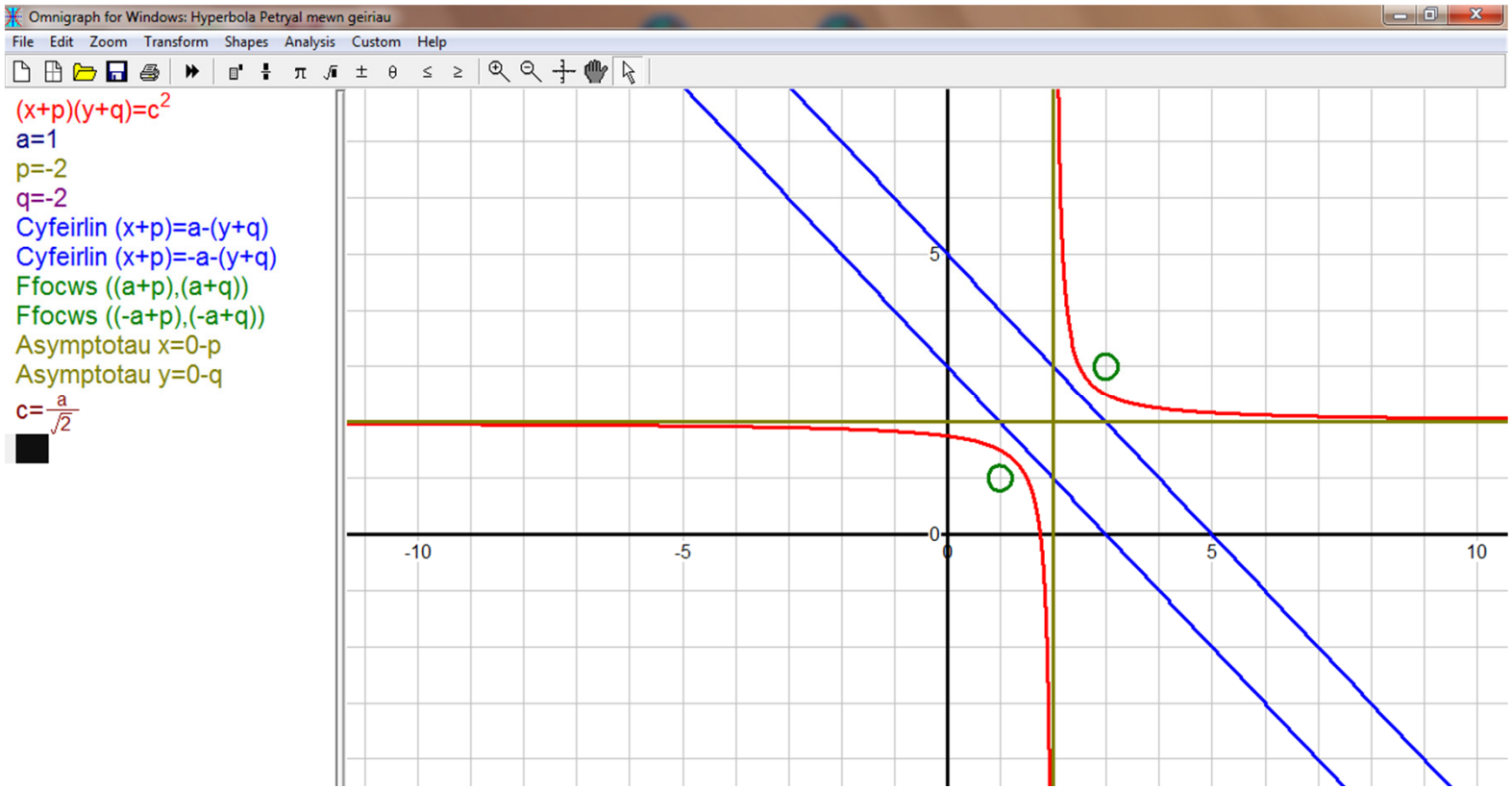
Geometreg Gyfesurynnol

Conigau

	Hyperbola
Ffurf Safonol	$\frac{x^2}{a^2}-\frac{y^2}{b^2}=1$
Ffurf Baramedrig	$(a\sec\theta, b\tan\theta)$ $(\pm a\cosh\theta, b\sinh\theta)$

Echreiddiad	$e>1$ $b^2=a^2(e^2-1)$
Ffocysau	$(\pm ae, 0)$
Cyfeirliniau	$x=\pm\frac{a}{e}$
Asymptotau	$\frac{x}{a}=\pm\frac{y}{b}$



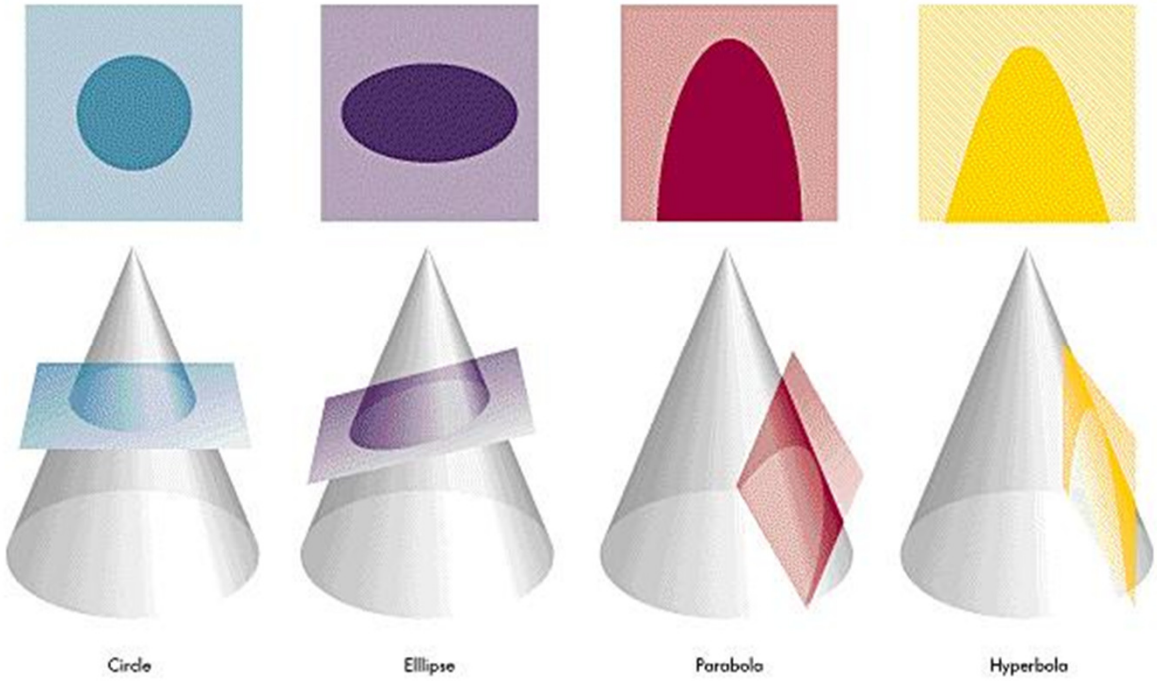


Geometreg Gyfesurynnol

Conigau

	Hyperbola Petryal
Ffurf Safonol	$xy = c^2$
Ffurf Baramedrig	$(ct, \frac{c}{t})$

Echreiddiad	$e = \sqrt{2}$
Ffocysau	$(\pm\sqrt{2}c, \pm\sqrt{2}c)$
Cyfeirliniau	$x + y = \pm\sqrt{2}c$
Asymptotau	$x = 0, y = 0$



Geometreg Gyfesurynnol

Conigau

	Elips	Parabola	Hyperbola	Hyperbola Petryal
Ffurf Safonol	$\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$	$y^2=4ax$	$\frac{x^2}{a^2}-\frac{y^2}{b^2}=1$	$xy=c^2$
Ffurf Baramedrig	$(a\cos\theta, b\sin\theta)$	$(at^2, 2at)$	$(a\sec\theta, b\tan\theta)$ $(\pm a\cosh\theta, b\sinh\theta)$	$(ct, \frac{c}{t})$
Echreiddiad	$e<1$ $b^2=a^2(1-e^2)$	$e=1$	$e>1$ $b^2=a^2(e^2-1)$	$e=\sqrt{2}$
Ffocysau	$(\pm ae, 0)$	$(a, 0)$	$(\pm ae, 0)$	$(\pm\sqrt{2}c, \pm\sqrt{2}c)$
Cyfeirliniau	$x=\pm\frac{a}{e}$	$x=-a$	$x=\pm\frac{a}{e}$	$x+y=\pm\sqrt{2}c$
Asymptotau	dim	dim	$\frac{x}{a}=\pm\frac{y}{b}$	$x=0, y=0$

Yn y Llyfryn Fformiwlau